

### **REMARKS**

Claims 1-27 are currently pending in the subject application and are presently under consideration. Claims 1, 14, 17, and 23 have been amended as shown at pages 2-5 of the Reply. Claim 13 has been canceled.

Applicants' representative thanks the Examiner for the courtesies extended during the teleconference of November 26, 2007. Examiner was contacted to discuss the prematurity of the final office action. However, no agreement was reached.

Applicants' representative submits that the previous amendments were made only for clarification purposes. As originally claimed, metadata is associated with the test components and with the source under test components. The previous amendments merely emphasize that the metadata indicates relationships between different versions of the source under test components and different versions of the test cases. Thus, the previous amendments merely emphasize subject matter as originally claimed, these limitations should already have been considered during an initial search in connection with the subject application. As such, the previous amendments did not necessitate the new grounds of rejection presented in this office action as the examiner had notice of these limitations in the previously submitted claims. Accordingly, the finality of the office action is premature and should be vacated and the current amendments made herewith should be accepted.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

#### **I. Objection of Claim 23**

Claim 23 stands objected to based on various informalities. Claim 23 has been amended to correct any informalities related to this objection, as such the objection is moot and should be withdrawn.

#### **II. Rejection of Claims 1-11 and 17-22 Under 35 U.S.C. §103(a)**

Claims 1-11 and 17-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mandava, *et al.* (US 7,210,066 B2) hereinafter "Mandava-1" in view of Blackwell *et al.* (Pub. No. US 2005/0166094 A1). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Mandava-1 and Blackwell *et al.*, individually or in

combination, do not teach each and every element of the subject invention as recited in the subject claims.

The subject claims relate to maintaining fine grained information regarding test versions and their relationship to versions of source code in such a way as to allow for robust management reporting. In particular, independent claim 1 (and similarly independent claim 17) recites an application test management system comprising: *a version component that monitors source under test components and test components for changes; and a test case file component that includes metadata associated with test components and source under test components received from the version component that indicates relationships between versions of source under test components and versions of test cases, the test case file component includes attributes necessary for query and test management and is continuously modified such that new features are added and/or removed to test changes in the source under test components, source under test components represent specific versions of source code; wherein the test case file component generates test results that are tagged with the versions of the source under test components and saved to a data store for historical analysis, the test results and version component are all version tagged data and dependent on the versions of the software under test.*

Mandava-1 does not teach or suggest the aforementioned novel features as recited in the subject claims. The cited reference discloses a system for identifying test coverage. The system provides a mechanism for associating a test case with a feature from a specification. Using these associations, a user can determine which features are covered by which tests, thereby allowing them to determine how well the features are covered by tests. However, Mandava-1 is silent regarding source code being tested and particularly does not mention versions of source code or versions of tests. The cited reference merely mentions version of specification which is not the equivalent. For a single version of a specification, there can and likely will be many versions of source code attempting to implement the features of the specification. Therefore, Mandava-1 fails to teach or suggest a test case file component that includes metadata associated with test components and source under test components received from the version component that indicates relationships between versions of source under test components and versions of test components.

Blackwell *et al.* does not cure the deficiencies of Mandava-1. Blackwell *et al.* discloses an automated tool used in conjunction with test cases designed to test the operation of

components of a software system. The testing of the software system is done by running predetermined test cases with known expected outcomes that can only be compared with the actual output of the software system. The test cases are typically defined and created during the development phase of the project and would only be removed when the functionality has been eliminated. (See pg. 9, paragraph [0125] and pg. 12, paragraph [0159]).

In contrast, applicants' claimed subject matter discloses an application test management system. Each software component of the system can and often does change. During the development process code is continuously modified such that new features are added and/or removed. Furthermore, test case components need to change to test the changes in the source under test (SUT). Test case component generates test results that correspond to the results of the test as executed on the current version of SUT. Version component monitors and records changes to the SUT component. Accordingly, the test results and the version component changes are all version tagged data, meaning that they are all dependent on the version of the software under test. (See pg. 8, line 22-pg. 9, line 2).

The test cases of Blackwell *et al.* are predefined and do not change, whereas applicants' test case components are dependent on the version of the software under test and change continuously as new features are added and/or removed from the software. Accordingly, Blackwell *et al.* is silent with regard to an application test management system, ... *wherein the test case file component generates test results that are tagged with the versions of the source under test components and saved to a data store for historical analysis, the test results and version component are all version tagged data and dependent on the versions of the software under test.*

In view of the foregoing, applicants' representative respectfully submits that the cited references fail to teach or suggest all limitations of independent claims 1 and 17 (and claims 2-11 and 18-22 that depend there from). Accordingly, withdrawal of this rejection is respectfully requested.

### **III. Rejection of Claims 23-27 Under 35 U.S.C. §103(a)**

Claims 23-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mandava, *et al.* (US 7,203,928 B2) hereinafter "Mandava-2" in view of Blackwell *et al.* It is respectfully submitted that this rejection should be withdrawn for at least the following reasons.

Mandava-2 and Blackwell *et al.*, individually or in combination, do not teach each and every element of the subject invention as recited in the subject claims.

Independent claim 23 recites *loading a test case in accordance with a test case file stored in a source file; executing the test case on a source code under test; generating test results, wherein the test results are version tagged to indicate the relationship between test results, version of test case, and version of source code under test; and continuously modifying test information such that new features are added and/or removed to test version changes to the source code under test.* The subject claim discloses providing information that indicates the relationship between a test result and the version of a test case and version of source under test. Mandava-2 does not teach or suggest the aforementioned novel features as recited in the subject claims. The cited reference discloses a method for providing standardized reporting of test results. The system employs codes that testers can associate expected results and rationale for the results. This allows different testers to understand the test that was created and what is expected when the test is executed. However, Mandava-2 is silent regarding versions of a test case and version of source code being tested. Therefore, Mandava-2 fails to teach or suggest generating test results, wherein the test results are version tagged to indicate the relationship between test results, test case version, and source under test version.

Blackwell *et al.* does not cure the deficiencies of Mandava-2. As stated *supra*, Blackwell *et al.* discloses an automated tool used in conjunction with test cases designed to test the operation of components of a software system. The testing of the software system is done by running predetermined test cases with known expected outcomes that can only be compared with the actual output of the software system. The test cases are typically defined and created during the development phase of the project and would only be removed when the functionality has been eliminated. (See pg. 9, paragraph [0125] and pg. 12, paragraph [0159]).

In contrast, applicants' claimed subject matter discloses test case components that are continuously modified such that new features are added and/or removed. Test case components need to change to test the changes in the SUT. Test case component generates test results that correspond to the results of the test as executed on the current version of SUT. Accordingly, the test results and the version component changes are all version tagged data, meaning that they are all dependent on the version of the software under test. (See pg. 8, line 22-pg. 9, line 2).

The test cases of Blackwell *et al.* are predefined and do not change, whereas applicants' test case components are dependent on the version of the software under test and change continuously as new features are added and/or removed from the software. Accordingly, Blackwell *et al.* is silent with regard to a testing methodology, ...*wherein the test results are version tagged to indicate the relationship between test results, version of test case, and version of source code under test; and continuously modifying test information such that new features are added and/or removed to test version changes to the source code under test.*

In view of the foregoing, applicants' representative respectfully submits that the cited references fail to teach or suggest all limitations of independent claim 23 (and claims 24-27 that depend there from). Accordingly, withdrawal of this rejection is respectfully requested.

#### **IV. Rejection of Claims 12-13 Under 35 U.S.C. §103(a)**

Claims 12-13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mandava-1 in view of Blackwell *et al.* and further in view of Mandava-2. It is respectfully requested that this rejection should be withdrawn for at least the following reasons. Mandava-1, Blackwell *et al.* and Mandava-2, individually or in combination, do not teach or suggest each and every element as set forth in the subject claims. In particular, Mandava-2 does not make up for the aforementioned deficiencies of Mandava-1 and Blackwell *et al.* with respect to independent claim 1 (which claims 12-13 depend from). Thus, the subject invention as recited in claims 12-13 is not obvious over the combination of Mandava-1, Blackwell *et al.* and Mandava-2.

#### **V. Rejection of Claims 14-16 Under 35 U.S.C. §102(e)**

Claims 14-16 stand rejected under 35 U.S.C. §102(e) as being anticipated by Mandava-1. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Mandava-1 does not teach each and every element of the subject invention as recited in the subject claims.

The subject claims relate to maintaining fine grained information regarding test versions and their relationship to versions of source code in such a way as to allow for robust management reporting. In particular, independent claim 1 (and similarly independent claim 14) recites *a means for maintaining fine-grained track of a test's relation to a version of software under test; a means for querying test data to facilitate generation of test management reports; a*

*means for continuously modifying test data such that new features are added and/or removed to test version changes to the software under test; and a means for generating test results that are tagged with test version data in relation to the version of software under test, the test results and test version data are all version tagged data and dependent on the versions of the software under test.*

Mandava-1 does not teach or suggest the aforementioned novel features as recited in the subject claims. The cited reference discloses a system for identifying test coverage. The system provides a mechanism for associating a test case with a feature from a specification. Using these associations, a user can determine which features are covered by which tests, thereby allowing them to determine how well the features are covered by tests. However, Mandava-1 is silent regarding source code being tested and particularly does not mention versions of source code or versions of tests. The cited reference merely mentions version of specification which is not the equivalent. For a single version of a specification, there can and likely will be many versions of source code attempting to implement the features of the specification.

Furthermore, applicants' claimed subject matter discloses test case components that are continuously modified such that new features are added and/or removed. Test case components need to change to test the changes in the SUT. Accordingly, the test results and the version component changes are all version tagged data, meaning that they are all dependent on the version of the software under test. Therefore, Mandava-1 fails to teach or suggest a test case file component that includes metadata associated with test components and source under test components received from the version component that indicates relationships between versions of source under test components and versions of test components.

In view of the foregoing, applicants' representative respectfully submits that Mandava-1 fails to teach or suggest all limitations of independent claim 14 (and claims 15-16 that depend there from), and thus fails to anticipate the subject claims. Accordingly, withdrawal of this rejection is respectfully requested.

**CONCLUSION**

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP641US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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